Title (en)

Driving circuit with grey levels for a display apparatus and liquid crystal display apparatus using the same

Title (de)

Steuerschaltung mit Graustufen für eine Anzeigeanrichtung und diese verwendende Flüssigkristallanzeigeeinrichtung

Title (fr)

Circuit d'attaque avec niveaux de gris pour un appareil d'affichage et appareil d'affichage à cristaux liquides qui l'utilise

Publication

**EP 0707306 A3 19960724 (EN)**

Application

**EP 95304020 A 19950609**

Priority

JP 24959894 A 19941014

Abstract (en)

[origin: EP0707306A2] A driving circuit used in a display apparatus includes a plurality of output circuits for selecting two reference gradation voltages among a plurality of different reference gradation voltages based on display data and outputting an interpolation voltage corresponding to the display data using the two reference gradation voltages; and a plurality of supply lines for supplying the plurality of reference gradation voltages. The supply lines including a plurality of voltage supply lines and a plurality of signal supply lines. One of the plurality of voltage supply lines supplies a voltage having a minimum difference from the voltage of a common electrode of the display apparatus and another of the plurality of voltage supply lines supplies a voltage having a maximum difference from the voltage of the common electrode. The two reference gradation voltages selected by each of the output circuits are supplied by one of a plurality of pairs of supply lines. At least one of the pair has a signal supply line and a supply line having a voltage higher than the signal supply line, and another of the pairs has a signal supply line and a voltage supply line having a voltage lower than the signal supply line. <IMAGE>

IPC 1-7

**G09G 3/36**

IPC 8 full level

**G02F 1/133** (2006.01); **G09G 3/20** (2006.01); **G09G 3/36** (2006.01)

CPC (source: EP KR US)

**G09G 3/2011** (2013.01 - EP US); **G09G 3/36** (2013.01 - KR); **G09G 3/3688** (2013.01 - EP US); G09G 2310/027 (2013.01 - EP US); G09G 2320/0209 (2013.01 - EP US)

Citation (search report)
- [A] EP 0488516 A2 19920603 - IBM [US]
- [A] H. OKADA ET AL: "An 8-bit Digital Driver for AMLCDs", DIGEST OF TECHNICAL PAPERS,SOCIETY FOR INFORMATION DISPLAY INTERNATIONAL SYMPOSIUM, 14-16 JUNE 1994, VOL. 25 PAGES 347-350, SAN JOSE US, XP000462717

Cited by

WO9828731A3

Designated contracting state (EPC)

DE FR GB NL

DOCDB simple family (publication)

**EP 0707306 A2 19960417**; **EP 0707306 A3 19960724**; CN 1097812 C 20030101; CN 1143235 A 19970219; JP H08115060 A 19960507; KR 0163102 B1 19990320; KR 960015367 A 19960522; TW 263581 B 19951121; US 5923312 A 19990713

DOCDB simple family (application)

**EP 95304020 A 19950609**; CN 95109183 A 19950707; JP 24959894 A 19941014; KR 19950017650 A 19950624; TW 84105835 A 19950608; US 47778995 A 19950607